

CLAIMS

I claim:

1. A device to heat and humidify gas comprising a fluid reservoir (11, 15, 20), a humidification chamber (9) featuring a gas inlet and outlet for the gas, a drive device (19, 30) to move the fluid through the gas, characterized in that it comprises a controlled heater device (17) for the fluid.

2. A device according to claim 1 characterized in that the humidification chamber (9) is a sprinkling type chamber

3. A device according to claim 2 characterized in that in the humidification chamber (9) filling material (10) is provided comprising a big surface.

4. A device according to claim 1 characterized in that the humidification chamber (9) is pressurized.

5. A device according to claim 1 characterized in that the drive device is a pump (19) which feeds the fluid from a fluid reservoir (11, 15) to the sprinkling type chamber (9) and that the sprinkling type chamber and the fluid supply reservoir (11, 15) are connected in a circuit.

6. A device according to claim 1 characterized in that the drive device is a rotating body (30) partially dipping into the fluid within the fluid reservoir (11).

7. A device according to claim 6 characterized in that the body (30) is a stack of plates connected to each other with a distance.

8. A procedure for the humidification of a gas comprising the steps:

supplying of a gas from a reservoir,
controlled generation of a gas flow,
heating and humidification of a gas and
feeding the gas to a patient

characterized in that the humidification is by means of sprinkling.

9. A procedure according to claim 8 characterized in that the humidification takes place before the gas flow is generated.

10. A procedure according to claim 8 characterized in that the humidification takes place while the humidification chamber is pressurized (preferably at 4.5 bar) and at a temperature (preferably about 72 °C) which is higher than the temperature of the gas flow directed to the patient, while the respiratory gas is depressurized to the level of normal respiratory gas preferably maximal 0.1 bar above the pressure of ambient air with a temperature of preferably 37 °C und a user-defined relative humidity of preferably 100 %.